

Plots on a similar scheme made of the values of dextrin and maltose, present at successive stages of diastase conversion $[\alpha]_{D_{386}} = 195$ and $[\alpha]_{D_{386}} = 135.2$, demonstrate that by the law of Brown and Morris, K , m , and d can be graphically represented as straight lines.

Again it follows that the values of K_{386} of a *mixture* of hydrolyzed starch products made by the action of acids must be necessarily less than the value of K of a homogeneous product of the same rotation, as it falls on the straight line joining the points on the K curve corresponding to the original values of the separate constituents.

A reprint of the paper on the hydrolysis of starch will appear in the *Technology Quarterly* in March. The authors will be glad to send corrected copies to any member of the Society interested in the subject.

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NEW BOOKS.

COMMERCIAL ORGANIC ANALYSIS. BY ALFRED H. ALLEN, F.I.C., F.C.S. Second Edition, Revised and Enlarged. Vol. III. Part III. VEGETABLE ALKALOIDS (Concluded), NON-BASIC VEGETABLE BITTER PRINCIPLES, ANIMAL BASES, ANIMAL ACIDS, CYANOGEN AND ITS DERIVATIVES. xii + 508 pages. 1896. Philadelphia: P. Blakiston, Son & Co. Price, \$4.50.

This, the last volume but one of Allen's compendious work, is devoted to a study of the vegetable alkaloids, non-basic vegetable bitter principles, animal bases, animal acids, and cyanogen and its derivatives. It is really Volume V of the book, Volume III having grown into three large volumes during compilation and publication.

This volume, like its associates, is much more than its title indicates. It not only describes methods of procedure for the benefit of the analyst, but gives also a description of the various organic bodies, notes concerning their preparation and other encyclopedic matter valuable to the scientific reader.

Since Mr. Allen's work has so far outgrown its original plan, it might be well for him to consider the advisability of a re-arrangement of the material in a future edition in order to make it more convenient for different classes of chemical workers. For instance, in the present volume the matter on pages 1 to 166 is

of especial interest to pharmacists and toxicologists, pages 192 to 423 to physiological chemists, and pages 424 to 486 to manufacturing and technical chemists. The section embraced in pages 167 to 191 is of especial interest to chemists connected with the brewing industry. It is easy to realize, however, that the best arrangement of all the helpful matter which Mr. Allen has brought together is quite as much of a problem as the treatment of the subject-matter itself. Of the latter the previous volumes are witnesses of the great success which has attended the laborious and long-continued efforts of the author in culling from the scattered chemical literature of the whole world the facts and processes most useful to the busy worker in the various fields of chemical industry embracing the study of organic bodies. If it were possible to distinguish those organic bodies which are important from those of an opposite character, it might be said that Mr. Allen has included many things in his book which are not valuable from a commercial point of view. For instance, there is very little demand for adoninin, bilirubin, cevine, urinary deposits, euonymin, gall-stones, furze, hippuric acid, indican, jervine, kynurine, melan, nataloins, ophelic acid, piuri, rottlerin, quadri-urates, serpents' urine, taurocarbanic acid, urea, verine, and xantho-creatinin. These and hundreds of others are of so little commercial importance as to render questionable the utility of extending the volume to comprehend them. The description of these bodies would find a more fitting place in encyclopedias, kept for occasional reference, than in a practical manual to be consulted daily by the busy worker.

To the pharmacists the articles on the vegetable alkaloids will be found of useful interest. The physiological and agricultural chemists will welcome the articles on the potato, hops, and animal bases, the medical chemists the one on animal acids, and the manufacturing chemists the chapter on cyanogen.

It is doubtful whether asparagin, glutamin, betain, cholin and lecithin should be classed with the animal bases. These bodies are, first of all, products of vegetable metabolism, and their occurrence in the animal economy is quite as likely to be due to their ingestion in the food as to the results of any vital activity of the organs of the animal body.

The chapter on Hop Substitutes will prove of interest to American chemists and brewers at the present time, when so many of the State Legislatures, and even the National Congress are considering the subject of legislation looking to the definition of beer, and a description of its adulterants. We have in this country, as in England, no legal definition of beer, and in the absence of such a definition, the brewer using quassia wood instead of hops, could not legally be accused of practicing adulteration. In point of fact it is doubtless true that hop substitutes are used to a very limited extent in this country. Nevertheless, our chemists will be grateful to Mr. Allen for presenting in a succinct form the best methods of detecting the various bitter principles which have been proposed and used for hop substitutes. I am glad to see that he gives no credence to the absurd statement we all have heard, relating to the presence of strychnin in beer.

The article on urea is very full and complete, but inasmuch as the author has published a special treatise on urine analysis, and for the additional reason mentioned above, that urea has no great commercial importance, space would have been saved by its omission.

We shall welcome Mr. Allen's concluding volume, and the work when complete will find a place with that of Fresenius in the equipment of the analytical chemist. H. W. WILEY.

A BRIEF INTRODUCTION TO QUALITATIVE ANALYSIS. BY LUDWIG MEDICUS, Professor of Chemistry in the University of Würzburg. Translated from the Fourth and Fifth German editions, with additions by John Marshall, Assistant Professor of Chemistry in the Department of Medicine of the University of Pennsylvania. Fourth Edition. 203 pp. 8vo. Philadelphia: The J. B. Lippincott Co. Price \$1.50.

The writer of a book upon qualitative analysis at the present time finds it difficult to avoid following beaten paths. In fact, the methods given in the earlier text-books for the qualitative testing and separation of bodies have survived so many attempts to improve upon them, and the difficulties in the way of material innovations have usually proved to be so great, that it is hardly to be expected of an author that he should originate wholly new methods of qualitative work. Superior arrangement of topics, greater clearness and accuracy of details, and the presentation of known facts in such manner as to call for more vig-